1: McGee E-5 (1894-1895)1898 NU31 Seri NU31

sizii), laid inverted in the jacales; these shells also being used in natural condition. No wrought shells, molluscan or chelonian, were observed in use or found either in the jacales or on the hundreds of abandoned sites; but the vicinage of the rancherias, the abandoned camps and house sites, and the more frequented paths are bestrewn with slightly worn shells, evidently used for a time and then lost or discarded. The relative abundance of the fictile ware and this natural shell ware in actual use is about 1:3; i. e., each adult female usually possesses a single olla of the conventional type, and there may be one or two extra ollas and two or three clay dishes in each band or clan, while each matron or marriageable maid is usually supplied with two to four shell-cups and each little girl with one or two; and there are twice as many carapace trays as clay dishes. The disproportion of

FIG. 15.—Shell-cup.

pottery and shell about the abandoned sites is naturally much greater; for the former is the most highly prized industrial possession of the women, while the shells are easily gained and lightly lost.

With respect to solid food the Seri may be deemed omniverous though their adjustment to habitat is such that they are practically carniverous.

The most conspicuous single article in the dietary of the tribe is the local green turtle. This chelonian is remarkably abundant throughout Gulf of California; but its optimum habitat and breeding-place would appear to be El Infiernillo, whose sandy beaches are probably better adapted to egg laying and hatching than any other part of the coast. Here it has been followed by the Seri; perhaps half of the aggregate life of the tribe is spent within easy reach of its feeding and breeding grounds, and tribesman and turtle have entered into an insulcal com-

1: McGee E-5 (1894-1895)1898 NU31 Seri NU31

munalty something like that of Siouan Indian and buffalo in olden time, whereby both may benefit and whereby the more intelligent communal certainly profits greatly. The flesh of the turtle yields food; some of its bones yield implements; its carapace yields a house covering, a convenient substitute for umbrella or dog-tent, a temporary buckler, and an emergency tray or cistern, as well as a comfortable cradle at the beginning of life and the conventional coffin at its end; while the only native foot-gear known is a sandal made from the integument of a turtle-flipper.

FIG. 20.—Turtle harpoon.

Doubtless the eggs and newly hatched young of the turtle are eaten, and analogy with other peoples indicates that the females are sometimes captured at the laying grounds or on their way back to water; but observation is limited to the taking of the adult animal at sea by means of a specialized harpoon. A typical specimen of this apparatus, as constructed since the introduction of flotsam iron, is illustrated in figure 20. It comprises a point 3 or 4 inches long, made from a nail or bit of stout wire, rudely sharpened by hammering the tip (cold) between cobbles, and dislodging the loosened scales and splinters by thrusts and twirlings in the ground; this is set firmly and cemented with mesquite gum into a foreshaft of hard wood, usually 4 or 5 inches long, notched to receive a cord and rounded at the proximal end; the rounded end of this foreshaft fits into a socket of the main shaft, which may be either a cane-stalk (as shown in the figure) or a section of mesquite root; while a stout cord is firmly knotted about the foreshaft and either attached to the distal portion of the main shaft or carried along it to the hand of the user. The main shaft is usually 10 or 12 feet long, with the harpoon socket in the larger end, and is manipulated by a fisherman sitting or standing on his balsa. On catching sight of a turtle lying in the water, he approaches stealthily, preferably from the rear yet in such wise as not to cast a frightening shadow, sets the foreshaft in place, guides the point close to the carapace, and then by a quick thrust drives the metal through the shell. The frictional resistance between the chitin and the metal holds the point in place, and although the foreshaft is jerked out at the first movement of the transfixed animal the cord prevents escape; and after partial tiring

1: McGee E-5 (1894-1895)1898 NU31 Seri NU31

the turtle is either drowned or driven ashore, or else lifted on the craft.[1] Immediately on landing the quarry, the plastron is broken loose by blows of the hupf[2] and torn off by vigorous wrenches of the warriors and their strong-taloned spouses in the impetuous fury of a fierce blood-craze like that of carnivorous beasts; the blood and entrails and all soft parts are at once devoured, and the firmer flesh follows at a rate depending on the antecedent hunger, both men and women crushing integument and tendon and bone with the hupf, tearing other tissues with teeth and nails, mouthing shreds from the shells, and gorging the whole ravenously if well ahungered, but stopping to singe and smoke or even half roast the larger pieces if nearer satiety. If the quarry is too large for immediate consumption and not too far from a rancheria the remnants (including head and flippers and shells) are hoisted to the top of the jacal immediately over the open end—the conventional Seri larder—to soften in the sun for hours or days; and on these tough and gamey tidbits the home-stayers, especially the youths, chew luxuriously whenever other occupations fail. In times of plenty, such sun-ripened fragments of reeking feasts are rather generally appropriated first to the children and afterward to the coyote-dogs; and it is a favorite pastime of the toddlers to gather about an inverted carapace on hands and knees, crowding their heads into its noisome depths, displacing the rare scavenger beetles and blowflies of this arid province, mumbling at the cartilaginous processes, and sucking and swallowing again and again the tendonous strings from the muscular attachments, until, overcome by fulness and rank effluvias, they fall asleep with their heads in the trough—to be stealthily nudged aside by the cringing curs attached to the rancheria. Com-

[1] A lively and explicit account of Seri turtle-fishing appears in Hardy's Travels in the Interior of Mexico, 1829, pp. 396-397: "Bruja's bay is of considerable extent, and there are from five to three fathoms water close to Arnold's island, in the neighborhood of which the Indians catch abundance of turtle in a singular manner. I have already described their canoes, which in Spanish are called 'balsas'. An Indian paddles himself from the shore on one of these by means of a long, elastic pole of about 12 or 14 feet in length, the wood of which is the root of a thorn called mesquite, growing near the coast; and although the branches of this tree are extremely brittle, the underground roots are as pliable as whalebone and nearly as dark in color. At one end of this pole there is a hole an inch deep, into which is inserted another bit of wood, in shape like an arrow, having a square bit of iron 4 inches long fastened to it, the other end of the iron being pointed. Both the *bolt* and *eye* are first moistened and then tightly inserted one within the other. Fastened to the iron is a cord of very considerable length, which is brought up along the pole, and both are held in the left hand of the Indian. So securely in the mud then dwell in the pole that although the latter is used as a paddle it does not fall out.

"A turtle is a very lethargic animal, and may frequently be surprised in its watery slumbers. The balsa is placed nearly perpendicularly over one of these unsuspecting sleepers, when the fisherman, softly sliding the pole through the water in the direction of the animal till within a foot or two of it, he suddenly plunges the iron into its back. No sooner does the creature feel itself transfixed than it swims hastily forward and endeavors to liberate itself. The slightest motion of the turtle displaces the iron point from the long pole, which would otherwise be inevitably broken and the turtle would as certainly be lost; but in the manner here described it is held by the cord fastened on to the iron which has penetrated its back till, after it has sufficiently exhausted its strength, it is hoisted on board the canoe by the fisherman, who proceeds to the shore in order to dispose of his prize."

[2] The universal stone implement of the Seri, improvised from a cobblestone and used in nearly every industrial occupation (see pocket, p. 226); the designation is mimetic, or onomatopoetic, from the sound of the stroke, particularly on animal tissues.

1: McGee E-5 (1894-1895)1898 NU31 Seri NU31

monly the carapace and the longer bones from the flippers of the larger specimens are preserved entire for other uses, and are cleaned only by teeth and talons and tongues, aided by time but not by fire; but the plastron, unless broken up and consumed immediately, is subjected to a cooking process in which it serves at once as skillet and cutlet—it is laid on the fire, flesh side up, and at intervals the shriveling tissues are clawed off and devoured, while at last the scorched or charred scutes themselves are carried away to be eaten at leisure.[1]

Perhaps the most significant fact connected with the Seri turtle-fishing is the excellent adaptation of means to ends. The graceful and effective balsa is in large measure an appurtenance of the industry; the harpoon is hardly heavier and is much simpler than a trout-fishing tackle, yet serves for the certain capture of a 200-pound turtle; and the art of fishing for a quarry so shy and elusive that Caucasians may spend weeks on the shores without seeing a specimen is reduced to a perfection even transcending that of such artifacts as the light harpoon and fragile olla. Hardly less significant is the nonuse of that nearly universal implement, the knife, in every stage of the taking and consumption of the characteristic tribal prey; for it may fairly be inferred that the comparative inutility of the knife in dissevering the hard and horny chelonian derm, and the comparative effectiveness of the shell-breaking and bone-crushing hupf, have reacted cumulatively on the instincts of the tribe to retard the adoption of cutting devices. Of much significance, too, is the limited cooking process; for the habitual consumption of raw flesh betokens a fireless ancestry at no remote stage, while the crude cooking of (and in) that portion of the shell not consecrated to other uses might well form the germ of broiling or boiling on the one hand and of culinary utensils on the other hand. On the whole, the Seri turtle industry indicates a delicate adjustment of both vital and activital processes to a distinctive environment, in which the abundant chelonian fauna ranks as a prime factor.

Analogy with other primitive peoples would indicate that the flesh of the turtle is probably tabu to the Turtle clan, that the consumption of the quarry is preceded by an oblation, and that there are seasonal or other ceremonial rites connected with turtle-fishing; but no information has been obtained on any of these points save a few vague and unwilling suggestions from Mashém tending to establish the analogy.

Flotsam and stolen metal have played a rôle in the industries of Seriland so long that it is difficult to learn much of the turtle fishing

[1] These details were furnished largely by Mashem and father Kaxinas, but were verified in essentials by personal observation of district customs at Costa Rica in 1896; and they were corroborated by observations on both shores of El Infiernillo and Bahía Kanhook in 1895. Especially significant were the remnants of a turtle feast on the southern beach of Punta Miguel interrupted by the approach of the exploring party. The indications were clear that the turtle had been hooked and largely consumed before the fire was kindled, and that the cooking of the firmer portions had hardly been commenced before the camp was abandoned so hurriedly that not only the nearly eaten turtle and the glowing embers, but the harpoon (the specimen illustrated in figure 20), the still bloody and green hupf (that represented in plate LXVI), and the fire-sticks were left behind. Gnawed fragments of charred plastrons are common relics about hastily abandoned camps generally.

1: McGee E-5 (1894-1895)1898 NU31 Seri NU31

262 Probably second in importance among Seri prey, as a food-source merely, stand the multifarious fishes with which the waters of Seriland teem, particularly if the class be held to comprise the cetaceans and seals and selachians ranked as leaders of the fish fauna in Seri lore.

225 Naturally, whales lie outside the ordinary range of Seri game, yet they are not without place in the tribal economy. During the visit to the Seri rancheria near Costa Rica in 1894, it was noted that various events—births, deaths, journeys, etc—were referred to "The Time of [173] the Big Fish"; and it was estimated from apparent ages of children and the like that this chronologic datum might be correlated roughly with the year 1887. The era-marking event was memorable to Mashém, to the elder women of the Turtle clan, and to other mature members of the group, because they had been enabled thereby to dispense with hunting and fishing for an agreeably long time, and because they had moved their houses; but the providential occurrence was not interpreted at the time. On visiting Isla Tiburon in 1895, the interpretation became clear; along 172 the western shore of Bada Ballena, near the first sand-spit north of the bight, lay the larger bones of a whale, estimated from the length of the mandibles and the dimensions of the vertebræ to have been 75 or 80 feet long. It was evident that the animal had gone into the shoal water at exceptionally high tide and had stranded during the ebb; while the condition of the bones suggested an exposure to the weather of perhaps half a dozen years. On the shrubby bank above the beach, [961] hard by the bleaching skeleton, stood the new rancheria, the most extensive seen in Seriland, comprising some fifteen or twenty habitable jacales; and fragments of ribs and other huge bones about and within the huts[1] attested transportation thither after the building, while the shallowness of the trails and the limited trampling of the fog 172 shrubbery gave an air of freshness to the site and surroundings. The 262 traditions and the relics together made it manifest that "The Time of the Big Fish" had indeed marked an epoch in Seri life; that when the leviathan landed (whether through accident or partly through efforts of balsa men) it was quickly recognized as a vast contribution to the Seri larder; and that some of the clans, if not the entire tribe, gathered to gorge first flesh and blubber, next sun-softened cartilage and chitin, and then epiphyses and the latter bones. Some of the ribs were split- [252] tered and crushed, evidently by blows of the hupf, in order to give access to the cancellate interiors; several of the vertebræ were battered and split, and nearly all of the bones bore marks of hupf blows, aimed to loosen cartilaginous attachments, start epiphyses, or remove spongy and greasy processes. Little trace of fire was found; in one case a mandible was partly scorched, though the burning appeared to be fortuitous and long subsequent to the removal of the flesh; and a bit of charred and gnawed epiphysis, much resembling the fragments of half-cooked turtle plastron scattered over Seriland, was picked up in

[1] One of the smaller vertebræ and part of a rib are shown in the upper figure of plate VI.

1: McGee E-5 (1894-1895)1898 NU31 Seri NU31

one of the huts. The condition of the remains and the various indications connected with the rancheria corroborated the tradition that the great creature had afforded unlimited and acceptable food for many moons; and various expressions of the tradition indicated that the event, though the most memorable of its class, was not unique in Seri lore.

A few bones and fragments of skin of the seal were found in and about the rancherias on Isla Tiburon, and an old basket rebottomed with sealskin was picked up in a recently abandoned jacal on Rada Ballena; a few bones provisionally identified with the porpoise (which haunts Boco Infierno in shoals) were also found amid the refuse about the old rancheria at the base of the long sand-spit terminating in Punta Tormenta; but nothing was learned specifically concerning the chase and consumption either of these animals or of the abundant sharks from which the island is named.

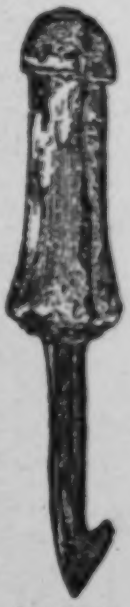

FIG. 21.—Fish-spearhead.

Among the exceedingly limited food supplies brought from the coast by the Seri group at Costa Rica in 1894, were rank remnants of partly desiccated fish, usually gnawed down to heads and tails; and Mashém and others spoke of fish as a habitual food, while Señor Encinas regarded it as the principal element of the tribal dietary. The harder bones and heavier scales of several varieties of fish were also found abundantly among the middens of both mainland and Tiburon shores in 1895. None of the remains bore noticeable traces of fire; and all observations, including those of Señor Encinas, indicate that the smaller varieties of fish are habitually eaten raw, either fresh or partially dried, according to the state of appetite at the time of taking—or the condition of finding when picked up as beach flotsam. But a single piscatorial device was observed, i. e., the barbed point and foreshaft, shown in figure 21—the iron point being, of course, secultural, and probably obtained surreptitiously. This harpoon, which measures 6 inches in length over all, is designed for use in connection with the main shaft of a turtle-catching tackle; and it is evidently intended for the larger varieties, perhaps porpoises or sharks. In 1837 Hardy observed a related device:

> They have a curious weapon which they employ for catching fish. It is a spear with a double point, forming an angle of about 5°. The insides of these two points, which are 6 inches long, are jagged, so that when the body of a fish is forced between them, it can not get away on account of the teeth.[1]

Don Andrés Noriega, of Costa Rica, described repeatedly and circumstantially a method of obtaining fish by aid of pelicans, in which a

[1] Travels, p. 288.

105 groups or clans between the waterholes and
182 their temporary dwellings by the sea, chasing for game or searching for cactus fruits, sleeping wherever weariness overtook them, or where the successful end of a hunt left them gorged and drowsy. Under a climate where frost is almost unknown they needed no protection except from the sun, and built no other dwellings than their brush-heap jacals (Fig. 3). Living in animal-like savagery, without commerce or industry, the Seri's every bodily character and function were directed toward the provision, day by day, of the food and water necessary for life.

312 Potable water, a commodity so abundant in most regions as to divert conscious attention from its paramount role in physiologic function and in industrial economy, attained in Seriland the primary place of importance because of its rarity. In that arid land it is scanty to the extreme. Two thirds of the meager supply is confined to a single rivulet in the interior of Tiburon Island (Fig. 4). Because of this and other widely separated aguajes within the island whose shores provided the greater part of their food resources, the Seris early found this island the most tolerable habitat in their desolate realm.

225 The most conspicuous single article in the
[262] dietary of the Seri, and undoubtedly that which first determined the location of his habitat, is the green sea turtle which is abundant throughout the Gulf of California, but particularly so in the narrow channel between Tiburon Island and the mainland. There the shallow lagoons abound with its marine grass food plant, and the sandy beaches provide optimum conditions for egg laying and hatching. In consequence of this natural provision for abundant food, easily obtained, perhaps half the aggregate life of the Seri tribe came to be spent within easy reach of the feeding and breeding grounds of the turtle.

[361] The most extensive and permanent of all Seri communities was established on the channel side of the island, just back of the lagoon in which the turtles feed and whose sands provided eggs and the succulent flesh
225 of newly-hatched turtle young. When fe-
501 males could not be captured at the laying grounds, the big chelonians were speared

[p. 194(8)]
[text continues on p 195(8)]

Schevill & Dawson E-6 (1825-1940) 1945
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from graceful balsas made of carrizo canes bound together with mesquite fiber cords (Fig. 5). On these buoyant craft, too, they navigated freely the narrow but stormy

[p. 195(B)]

S.Davis & Dawson E-5 (1923-1940) 1945
NU31 Seri NU31

225 channel separating their island habitations
501 from those on the mainland.

In pre-Columbian times the turtle fisheries
614 of the channel must have supported several

[p. 195(c)]

3: Davis & Dawson E-5 (1922-1940)1945 NU31 Seri NU31

225
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FIG. 1. THE NATIVE BALSA MADE OF CARVED REEDS

PHOTOGRAPHED IN 1922, THIS WAS THE LAST BALSA MADE BY THE SERIS. IT IS ONE OF THE SMALLER SEMI-MAN BALSAS FROM WHICH TURTLES WERE SPEARED WITH THE LONG-SHAFTED IMPLEMENT PICTURED HERE.

[p. 196(c)]

3:Davis & Dawson E-5 (1923-1960) 1944
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396 the extremities. Throughout the process the
[283] cord used for lashing was laboriously made
by hand and mouth by the women who ob-
[462] tained the fibrous raw material from mes-
quite tree roots, from the yucca or the
maguay. Three of the finished bundles were
lashed together to form a watercraft some
thirty feet in length and of four-foot beam.
These large balsas were buoyant enough to
carry several members of a family across El
Infiernillo channel. One-man balsas were
also made (Fig. 5) principally for use in
turtle fishing.

225 Except during the egg-laying season
411 turtles had to be sought from the balsa. The
Seris lacked tool sense in the extreme, but
their clumsy brains had devised a harpoon
for use against the turtle. The hard, pene-
trating point was commonly made of native
ironwood, but may also have been the sharp-
ened tooth of a sea lion or the shin bone of
a deer. It was fitted and firmly cemented
with mesquite gum to a short, hardwood
foreshaft whose rounded end fitted into the

[p. 197(C)]
[text continues on p. 198(B)]

3:Davis & Dawson E-5 (1923-1949) 1945
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[411]

ten- to twelve-foot main shaft. A stout cord was knotted to the foreshaft and carried along the main shaft to the hand of the user. When, from the quietly floating bales, a

[p. 198(B)]

3:Davis & Dawson E-5 (1923-1940) 1946
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225 turtle was seen lying in the water, the fisherman stealthily brought his spear-point over the carapace of the unsuspecting animal and then, with a sharp thrust, drove the point

[p. 198(c)]

225 through the shell. The foreshaft was jerked out at the first movement of the animal which was held by the fisherman's line until tired, after which it was either driven ashore or lifted onto the balsa.

No sooner was the quarry landed than the soft undershell was crushed and broken loose with a cobblestone "hupf," and then torn off
264 by the tribespeople with the impetuous fury of blood-crazed carnivorous beasts. The entrails and soft, bloody gore were first consumed, followed, depending upon the proximity of the last meal, by the firmer flesh, all but the infants of the household pounding, tearing and chewing their raw, grisly
[252] chunks, stopping to singe or half roast larger pieces only if near satiety. If immediate consumption of the prey was not accomplished, the remnants were carried to the rancheria and there lifted to the top of the jacal to soften in the sun. The reeking carapace was often left indefinitely beside the

[197]

Photo by J. B. Harrison

FIG. 9. PITAHAYA AND SAGUESO CACTI PROVIDE A RICH HARVEST OF FRUITS IN SUMMER.

[p. 199(A)]

5:Dawson N-5 (1940) 1944 NU31 Seri NU31

DESERT
PLANT LIFE

SIXTEENTH YEAR NUMBER 9

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SOME ETHNOBOTANICAL NOTES ON THE SERI INDIANS

105 121 If the natural resources of a region may be said to reflect the degree of cultural and social development of its aboriginal people, we may easily understand why the Seris of Sonora, now approaching extinction and with much modified habits and culture, are considered the most primitive and savage of American Indians. Certainly the arid coast of Sonora, destitute [133] of water but for a few widely separated, stagnant holes, with a dry, rocky soil habitable only by the most frugal and thorny of desert vegetation, presents little in the way of resources to a native people. It was, indeed, [262] only along the ocean shore that the Seris found animal food sufficient to sustain them, principally, the sea turtle and the pelican. This food source proved adequate to support a tribe of some 2000 in pre-Columbian times, but the limited habitat of the pelican and turtle brought about extreme isolation of the people. Thirty-mile-long Tiburon Island became their principal home, separated from the mainland by the narrow but tempestuous channel, El Infiernillo, across which they frequently voyaged in their buoyant balsas to search out vegetal supplements to their monotonous sea food diet. It is this use of vegetable materials, not only as food but in other phases of the domestic economy of these people in earlier times, with which these notes are particularly concerned.

●225 Primary occupation of the Seris aside from their continual movement to and from the water holes was, necessarily, their search for food, for they cultivated nothing and conserved little. Fish were exceedingly abundant in the waters around their island, but their very limited tool sense, pro- [227] viding them with almost no fishing devices, excluded much of this food from their diet. Clams and other shellfish were to be had, but it was the abundant green sea turtle, feeding upon luxuriant growths of marine grass, *Ruppia maritima*, in the shallow, sandy lagoons along El Infiernillo, that provided their meat staple. The turtles could be captured with ease during egg laying season as they crawled over the beach, but at other times they had to be 396 speared from a watercraft. No sizable timber grows in Seriland and before the advent of flotsam boards and hoop-iron it would have strained the

8: Ascher E-5 (1960) 1962 NU31 Seri NU31

McGee (1898:214)

estimated that maritime resources provided two-thirds of the Seri diet. Kroeber (1931: 20), approximately 30 years later, estimated the proportion at about three-fifths. In the winter of 1960, 30 years after Kroeber's visit, the Seri were obtaining at least three-fifths of their food from the sea.

In pursuit of their main source of subsistence, the Seri travel up and down the narrow coastal band. In the winter of 1960 they were occupying one temporary camp toward the southern end of the band and a permanent camp at the northern extreme. Seri women and children gather mollusks; fishing is a male occupation. In addition to gathering and fishing for their own needs, the Seri dispose of a portion of their catch on the commercial market. This enterprise began about 1930, and was encouraged by the establishment, in 1958, of the Sociedad Cooperative de Produccion Pesquera Seri with the cooperation of the Mexican government.

The Pacific green turtle constitutes the largest single item in the Seri diet for at least six months of the year—from January to June—and it is also caught occasionally at other seasons. In 1896 McGee estimated that it provided 25 per cent of the total food supply. Emphasizing the intimate ecological relationship between the Seri and the turtle, McGee (1898: 186-187) wrote:

> ... perhaps half of the aggregate life of the tribe is spent within easy reach of its [the turtle's] feeding and breeding grounds, and tribesman and turtle have entered into an inimical communality something like that of the Siouan Indian and buffalo in olden time. ...

Kroeber (1931: 20) believed that McGee stressed the Seri-turtle relationship too strongly and overestimated its contribution to the diet. McGee (1898: 187), in support of the importance of the turtle to the Seri, points to the fact that the turtle carapace is used for, among other things, a house covering and buckler, a cradle, a coffin, and footgear. The carapace is currently used for supporting and roofing houses and as a starvation food. The contribution of the turtle to the diet varies from year to year, but observations made in 1960 suggest a range of from 15 to 20 per cent as a reasonable estimate.

Seri men fish for turtle from boats, which are manned by two or three men and are propelled by oars, sails, outboard engines, or any combination of the three. The boats operate either individually or in groups. The men fish by night or day, depending on the weather and sea conditions. When they fish at night, they use a kerosene lamp to attract turtles to the surface. The principal implement is the harpoon.

The harpoon tackle of the Seri is illustrated in Figure 1. It consists of a foreshaft (c-h), a mainshaft (j-k), and an extension cord (i). The component parts of the foreshaft are a projectile point (c), a gasket (d), a wrapping cord (f), a hafting base (g), and a lead cord (e and h). In preparation for turtle fishing, the hafting base (g) is plugged into the socket (j) on the main shaft (k), and the extension cord (i) is looped through the lead cord (h).

8: Ascher E-5 (1960) 1962 NU31 Seri NU31

225 In fishing for turtle, one man stands at the bow of the boat, holding the mainshaft and extension cord in one hand. When he sights a turtle, he propels the mainshaft at the animal's carapace, retaining a firm grip on the mainshaft and the extension cord. If it is struck, the turtle lurches away, loosening the foreshaft and unplugging it from the mainshaft. Tired eventually by the tension [411] applied by the fisherman on the extension cord, the turtle is finally stunned by a wooden club and lifted into the boat.

225 There is evidence that the turtle-fishing complex has consider-175 able time depth and stability. The Seri were using similar apparatus and methods at least as early as 1825 (Hardy 1829: 296-297). At [501] this time they employed balsa boats rather than wooden boats with outboard motors and torches of cactus fibers instead of kerosene lamps. The complex continued, apparently with little change, through 1896 (McGee 1898: 187-193). Wooden boats and kerosene [177] lamps began to be adopted during the 1920s, and outboard motors were introduced in the 1940s.

411 During the entire period of 135 years (1825-1960), however, the harpoon tackle underwent only one important innovation. The 225 gasket on the foreshaft was introduced by a Seri Indian about the 176 year 1935. The addition of the gasket was related to, and coincided [439] in time with, the first attempts of the Seri to supply turtles to the commercial market. When they caught turtles solely for their own use, they did not need to keep the animals alive for very long, but when they began to sell them it became important to preserve them alive until they reached the market. The gasket acts like the hilt on a sword, preventing the entrance of the foreshaft hafting into the turtle's body. Through its contact with the carapace, it restricts the rotation of the point within the animal's body and provides a seal which inhibits the loss of blood, and thus prevents early death. After the turtle is stunned with a club and lifted into the boat, the foreshaft is removed and the hole which it made is stuffed with a piece of cloth.

124 Seri men were shown a harpoon foreshaft from a museum archive and asked what it was for and whether they themselves made similar 411 ones. If an informant acknowledged that he made them, he was asked, at the minimum, to detail the materials he used, the procedures he followed, and the approximate amount of time it would take him to produce one. Later he was requested to show the field worker examples of the foreshafts he had made. Of the approximately 40 adult Seri males, about 25 were available for questioning. Of these, approximately ten did not make foreshafts or had made them in the past but did so no longer; they were mainly older men and those [474] engaged in the administration of the Sociedad Cooperative de Pro-[887] duccion Pesquera Seri. Five men either would not or could not volunteer information. Data were obtained from the remaining ten adult men and from one eight-year-old boy; they include 21 foreshafts made by these eleven people.

411 The materials from which a foreshaft can be shaped and as-325 sembled vary within what is available in the Seri environment. Iron

Sitalkin E-5 (1953-1955)1962 NU31 Seri NU31

226 411 177 commercial origin are their main instruments of fishing. To this they added dynamite, sometimes with disastrous results to themselves, mostly as a way of securing bait. Single-pointed fish-spears which loomed so importantly in McGee's account have gone the way of the Dodo for its original purpose and transformed into iron bar lances, now used largely as weapons against rattlesnakes that, men encounter in their desert roamings. However, in the forties, when the Seris spent a great deal of time getting sharks and huge rays, they killed them with these weapons.

226 411 What retain some importance are the harpoon and the two-pronged spear called "puiero." The two-pronged spear is one of their oldest weapons. The construction is much the same as when McGee visited them. The spear is used mainly to stab large-size fish, the giant *bais* or *mero* for example, after it has been brought up on the line. The [225] harpoon is now exclusively a weapon for the turtle hunt.

226 177 [157] An interesting fate met an effort to teach these Indians net fishing in 1947. They tried, ruined the nets and never took it up since. The instigators were Mexicans, the fish traders. I suspect that Seri individualism had a great deal to do with their lack of interest in net fishing which after all demands a certain amount of cooperation. With the hook and line fishing, men can have much more their own way.

501 177 648 An added "tool" of the Seris is the plank boat. The balsa which McGee still observed during his visit, had already vanished by the time Kroeber came to the Seriland and had been replaced by these boats. The boats are flat bottomed but good sized. The material was provided by the Mexican government. Boats are usually propelled by 5 hp. motors leased from the Mexicans (no Seri is rich enough to purchase [439] one) who also sell them gasoline and oil at exorbitant prices and in return buy Seris' catch of fish and sea turtle for low prices. At the time of my visits these amounted roughly to less than a peso [435] per kilo of the flayed, degutted and cleaned fish (less than 8 cents) with fluctuation up and down the scale depending on the kind of the fish, and to about 30-50 pesos for medium to large size "cahuama," the live marine turtle.

501 648 The Seri boats are also propelled by paddles and sail—this is always the case with the families who wish to stay away on Tiburon for some time. The Mexicans will not lease them their motors for such trips even if the Seri, some of them at least, have enough knowledge of the motors to repair minor stoppages—a demonstration of the fallacy [114] of McGee's idea that they are genetically unable to handle tools. In this respect, Kroeber's (1930: 25) estimate of them is closer to the truth.

462 Sexual division of labor in procuring food goes on, much the same as it had 70 and 30 years ago, with the sole exception of the imported goods. [439] Here purchases are made either by men or women or by children, depending on who at the time has the cash and what one wishes to buy.

Fishing is still done by men and so is hunting. Women still concentrate on gathering, whether of

237 On the other hand, the hides of all of these three animals had been traded off to the Mexicans, [439] but this again was now discarded. This would [182] merely indicate the fluctuation of collapse of the demand from the outside rather than any intrinsic change in the Seri values.

Incidental use of the horns of the bighorn had been denied by all of the younger informants although admitted by Miguel Barnett. However, as [415] I observed, the horns of this sheep are sometimes used as drinking cups. Several of them were [181] lying around in the usual disorderly way of the Seris, now and then picked up for drinking and then again discarded. But the use of them struck me as most casual.

224 *Hunting:* Hunting takes a variety of forms 411 and includes a variety of weapons, from .22 caliber and .30/.30 caliber rifles to spear, stone and throwing stick. Bighorn and deer are followed on foot but without dogs, probably because without dogs they may be easier to surprise. This hunt takes place in daytime. But the peccary is hunted with both the spear and the rifle and with a pack [231] of dogs, and only by the adult men. There is an [885] emphasis on the "adult," this surely owing to the certain amount of danger connected with the chase of the peccaries. The weapons of the chase dwindle to the throwing stick or a stone when it comes to the jackrabbit. Badgers, I was told, are also killed with the same weapons. But formerly, the informants said, bow and arrow was much instrumental in hunting the smaller beasts.

* 825 Other animals, according to the Seris, are not [224] hunted now, nor had they been in the past. Justification for this ranged from the usual "because it isn't done" to the more specific reasons. The skunk is "neither hunted nor eaten because it stinks." The whale is considered "too big to kill" [225] while the killer whale is "too fierce." The harmless *tonita* (dolphin)[1] was reported somewhat hazily as "sometimes killed" but the comments were inconclusive and were denied by other informants.

[224] Two other species had been reported as hunted in the past but not at the present time. The Ringtail cat was supposedly hunted with the slings while the sea lion was hunted down "with a rifle [225] or rock but not with the harpoon because of its great strength, it would break the harpoon." This, however, was "perhaps 25 years ago." Why the sea lion is no longer pursued is uncertain, unless there is again a lack of demand from the outside while the Serian economy is so much centered on fishing.

231 *Pets:* How many species of animals are kept as pets on and off is difficult to say. Like most hunting and gathering groups the Seris are fond of pets but their interest in them depends entirely on an accidental capture. Among the wild mammals of the region there are few that could be captured and tamed easily. The badger which I mentioned already was the only mammal I saw

[237] [1] I have seen bones of beached whales used for stools and [352] also the skull of the *tonita* used as a chair." But it must be remembered that these animals got stranded on the beach. They were not deliberately hunted down.

[P 10 B]

½ [deer, bighorn and peccary - Analyst]

9:Malkin B-5 (1953-1955)1982 NU31 Seri NU31

Sex Differentiation

*825 Only a few kinds of differences do the Seris recognize between the male and the female mammals. Size differences have been indicated for 16 species out of 21. Of these, in nine species male are supposedly larger than the females (sea lion, cougar, killer whale, mule deer, fox, kangaroo rat, peccary, badger, bighorn). In four species the sexes are equal in size (porcupine, grey whale, ringtail cat and the desert cottontail) and in two the answer was "I do not know." These last two are the porcupine and the skunk, both of which are rare in the Serian territory and it is possible that the rarity of the animal prevents the formation of any decisive idea on the subject.

No data had been obtained for the remaining species but from the general drift of the replies, the general trend would probably be similar to that for the rest of the animals. This trend is obvious. To the Seris, the male mammal is larger than the female and in most instances this is true. But there also is a basic conviction that this should be so. In the *Cetacea* actually the females are larger than the males in varying degrees, but even here the Indians asserted that the dolphin's and the killer whale's male is larger than the female, and in the grey whale the sexes are supposedly equal in size. Since these animals are [225] not hunted and only in the rare opportunity can the Seris examine specimens in the beached individuals the unknown situation then is covered by the blanket idea—the males are larger than the females.

In coloration no sexual differences were indicated at all. In such instances where the answer had been provided it has been pointed out that the colors of both sexes were identical. On the other hand, in some of the land mammals presence of "dos suevos," that is testicles in the males, has been indicated, in the coyote and fox in that number. Presence of a penis in the male is considered another structural difference in some of the animals, among them, the kangaroo rat.

In several instances size and weight differences have been indicated quite specifically. For the three most important economic species, the peccary, the deer and the bighorn, the figures in weight and size for both sexes came remarkably close to the actual dimensions of these animals. Reasons for the Seris' ability to estimate the weight of an animal will be explained later on.

Few other structural differences were given. The Seri recognize very well that the male deer bears horns for at least part of the year and that the female is horn-less. They also indicated the differences in the size and the shape of the bighorn horns, those of the male being large and curved, those of the females being small and almost straight.

No temperamental differences were indicated between the male and the female mammals, with the exception of the deer. Here the Seris say the males are very belligerent and engage in combat duals in November, the mating season as some of the Indians suggested. But they also said that the bucks rarely fought during the rest of the year.

[P 11 B]

9344alkin E-5 (1953-1955)1962 NU31 Seri NU31

V

REPTILES AND AMPHIBIANS

136 fore it was impossible to check the Seris' ability
* [825] to distinguish between these.

As for the marine turtles, there are several possible species in the area. There is no mistake about the loggerhead. I have seen one carapace and boner taken at Campo Vivora, while with the Seris. The others could be any two of the several species common in the Gulf.

Economic Uses

* 825 In 1956 I published data concerning economic
114 exploitation of the reptiles by the Seris which need correction. Eleven species out of 25 had been reported as used economically. Additional work done in 1955 and after the completion of the MS. indicated a much higher percentage: 17 species out of 26 are used. Thus the percentage increases from 44% to 65%. The percentage of the species actually used will probably rise with additional
[262] field work because some of the informants are dis-
inclined to admit eating certain animals or will
[124] simply say, "these had been eaten in the past but not now." However, close inspection and observation often contradict these statements.

262 The list of species reported as eaten is as follows:

Turtles and tortoises: all species
Snakes: both racers, patch nosed snake and both rattlesnakes
Lizards: both chuckawallas, Gila monster, race runner, northern crested lizard

This listing shows how much dependent are the Seris on the desert habitat for food. Even today, with all the available ready-made manufactured
[198] food or imported food from the *tienda*, they gather evidently most of the common reptiles to increase their menu.

Of the species in the list, only two, both smaller species of sea turtles, figure as really important items. McGee believed that here was by far the most important part of the Seri menu, with the marine birds running second.* Now, the importance of the sea turtles has declined, no doubt through a variety of outside influences. I doubt (on the basis of my observation) if altogether it comes to more than 10% of their total diet. The turtles had been replaced as number one food by
[177] the fish (with the introduction of hook and line fishing). But anther factor evidently is the depletion of the turtle population. The third species, the huge loggerhead, is so rare that during the entire
● [225] summer of 1953, only one of them had been harpooned and that at Camp Vivora away from Desemboque. The two smaller species have also become very rare and hardly ever show up near the village. They can be taken on more distant expedi-

*Eggs of the turtles are considered a delicacy, especially of the smaller of the two. The Seris say that the loggerhead has been eaten once but now almost never, because it became so rare.

[P.22 B]

9:Malkin E-5 (1959-1955)1962 NU31 Seri NU31

262 tions to San Esteban or San Lorenzo. The turtles
[225] now are as much a food as a "cash crop." While
[439] the Seris are camped at Desemboque, most of the turtle catch is sold alive to the Mexican fish traders who are headquartered in Nogales and Hermosillo and take the catch along with the fishes to the markets in these towns and sometimes even as far as Phoenix and Tucson.

Of the remainder, the most frequent items that show up on the Seri table are probably the rattlesnakes and the desert tortoises. The rattlers are eaten with relish—only the heads and the tails are discarded as poisonous. The larger chuckawalla is considered a particular delicacy but is rarely caught because it lives in a somewhat distant region. The remainder of the animals listed as "eaten" are collected only incidentially.

It is probable that very few species are really left alone and not taken as food at various times, especially when famine distress overruns the camp. As far as I could determine, only three species are rejected as altogether unfit to eat: the gecko, the night lizard and the toad. All three are believed to be highly toxic "in flesh and blood" although real harm could be caused only by the toad. Besides, the two lizards are really tiny creatures and would make little difference when a survival is at stake.

*825 Few reptilians are ever used as anything but
[439] food. The sea turtles in a way are at certain times,
237 that is, when they are sold for hard cash to the Mexican traders, whether live or sliced and salted. The only other creature I ever heard about as being used for anything at all was the coral snake. At least one informant suggested that in the past its hide has been used for hat decoration. But coral snakes are scarce and this again could be only incidental. It may be that the rattlesnake hide, especially of the large specimens of the western
[439] diamondback, is sold occasionally to a passing visitor but this again is a rare occurance."

Food Preparation

252 Food preparation of the majority of animals in this group is no different than of most other ani-
[263] mals. They are simply skinned, tossed into a pot of boiling water and cooked, occasionally with salt as the only ingredient. Larger individuals, notably turtles, will be quartered and then boiled or roasted on a grill. The chuckawalla and the desert tortoise are said to be fried, but whether this is the usual procedure I can't say, because only a few of them had been brought into camp in my presence. The tail of the Gila monster supposedly had been fried in oil "in the past."

Food Preferences and Taboos

262 It is obvious that some creatures in this group are considered better food than others. The chuckawalla is especially favored. When several were brought in from San Esteban, I couldn't persuade the owners to part with them, although I offered a huge price (for local conditions). The captors took

[291] Another use in the past—snake-skin belt worn. It is illustrated by McGee (1898:170, Fig. 7).

[P.23A]

Spicer E-5 (1953-1955)1962 MU31 Seri MU31

262 them to their shelter and held them there for several days before they and their families finally ate them up. The turtles are also a well-liked item.

As already indicated in some instances there exists preference for a particular part of an animal. Of the Gila monster only the fat tail was said to have been eaten, and of both rattlers, the head and the tail are discarded on the grounds
* [825] that they contain toxin. Finally the toad and the gecko and *Xantusia* are all rejected as completely venomous.

178 262 It is also evident that changes in the Seri taste have occured in the course of the past several decades. Some animals are on their way out as food, and here we have the Gila monster, the whipcoach, the red racer and smaller lizards. In several cases, and this includes the Gila monster, the responses indicated that the animal had been eaten in the past. I also observed that on the sly, the Seris would eat them when other food was in short order. But they are reluctant to admit this and often altogether denied it.

Hunting

224 Most reptiles are captured by hand or else killed
● [225] with a stick, stone or pea-shooter. Except for the turtles, the Seris will not make special expeditions. But it is certain that if they find themselves on any of the islands near the shores of Baja California they will go ashore deliberately in search of the chuckawalla.

225 The turtles are another matter. Here now, just as in the past, special expeditions are made in order to get them. These expeditions take place
[501] nowadays in the usual flat-bottomed plank boats, either motor or oar propelled. The hunt takes place only during unusually quiet and dark nights, when the Gulf is smooth and calm and there is neither wind nor ripple. With the slightest disturbance,
[354] turtle fishing is impossible. It is all done with the
[411] torch lights or Coleman lanterns. The principal and only weapon is the harpoon, identical with that described and illustrated by McGee. The turtles are then harpooned, dragged into the boat and either left alive, when the hunters have a sale of live ones in mind, or pounded to death with a
[251] club or oar, quartered and then either consumed on the spot or else dried and salted.[1]

[224] While the collecting of the smaller animals us-
[462] ually falls to the children or women, turtle hunting is men's job. Men, too, usually get the chuckawalla because they usually visit more distant islands.

Pets

231 None of the reptiles are pets in a real sense. Those few that might be kept are only held until the day when they are butchered and eaten. It is motivated more by the wish to preserve fresh food than by any affection for the animal. The turtles, the tortoises and the chuckawalla belong here. Occasionally a Seri boy will string a lizard, a *Seri-*

[1] The loggerhead is hunted in the daytime because, owing to its great strength, night hunt would be too dangerous. Two harpoons are always used on it, while for the smaller species, one harpoon usually suffices.

226 and, from all accounts, also from the Japanese
177 whose trawlers worked in the Gulf in the late
1930's. Today, hook and line fishing from plank
[411] boats almost completely replaces earlier methods,
the spear (pueiro) and the harpoon (barilla).
[225] Harpooning is still done in hunting marine turtles
while spears are occasionally used on larger
groupers and also on sharks and mantas. Har-
poons were also used in connection with the lat-
ter. But since World War II the shark fishing
has declined, owing to the development of syn-
thetic vitamins and abandonment of sharks and
mantas' liver oil as a source of vitamins. In these
operations, the Seris were for a while involved
to a considerable extent. But now they have com-
pletely switched to commercial fishing which sup-
[439] plies not only food but also ready-made cash from
the Mexican traders, and with it the Seris can pur-
chase luxuries of life in the Mexican *tienda*.

262 Altogether, out of 42 species listed here, the
Seris reported taking for food 20 species which
are as follows:

Malacosteuus zonifer
Pirella simplicidens
Aniosotremus davidsoni
Paralabrax maculafasciatus
Lythrulon flaviguttatus
Mugil sp.
Cynoscion parvipinnis
Anchovia macrolepidota
Hairdiella iciatina
Stereolepis gigas
Mycteroperca jordani
Cynoscior macdonaldi
Epinephalus analogus
???? (Pescara)
Trachinotus paitensis
Verruculus polylepsis
Gymnothorax castaneus
Hypsoblennis gentilis vickettsi
Abudefduf saxatilis

The most important of these are the groupers,
the *baya*, *pinto*, *totuava* and *mero*—the latter a
giant fish often in excess of 150 kg. and nearly
three meters long. The most important of these is
the *baya*, a medium size fish taken daily in vary-
[226] ing amounts. I suspect that this fish accounts for
more than half or maybe even 2/3 of the total Seri
catch, weight-wise. Of others, none is of any
importance except seasonally.

* 825 Another sort of use is made of the sharks and
mantas in connection with the already mentioned
exploitation for liver. Five species of sharks and
the horned manta were listed by the Seris, with
chato, *gato* and *composo* most frequent and per-
haps most important.

Trading, as already mentioned, is of consider-
able importance to the Seris. Some fish are eaten
[439] only occasionally, but they may be traded off to
the Mexicans.

262 Not all fish are eaten. In most cases no particu-
lar explanation had been offered for the rejection.
But, in some, specific reasons were mentioned.
The *Scorpaena sonorae* and *Cetengraulis mystice-
tus* are so rejected because they "are too bony to
eat." *Gillichthys seta* are considered unfit to eat
because of its tiny size while *Sphoeroides annula-
tus* is refused because of its supposed toxicity, of
which more later. Finally, the sharks are not eat-

[B32A]

123 handed to show their friendliness.

142 One was a young man with rather pleasant features, his braided
291 hair hanging below his shoulders. His name was Antonio Herrera. The
123 other was a wild-looking specimen called Ramon Blanco. His hair was a
[302] tangled mat with a short braid behind, suspicious black piercing eyes,
[311] long sparse moustache and chin-beard hiding a broad cruel mouth. He wore the remnants of an old sweater, a short dirty kilt, or skirt, nearly to his knees, a belt full of cartridges, mostly empty, and a long knife in a rawhide scabbard.

123 The young man had been baptized and given a name by Roberto, who
[785] had acted as godfather or *patrona*, many years ago. He wore a hat,
[291] jacket, and pants of blue denim, and *guaraches*, or sandals of rawhide.

We shook hands all around and then they called and halloed in the brush and soon three women and a lot of children, wild and half-
[415] clothed, filed into camp. The women were tall, gaunt, unkempt, ragged
[482] and barefooted, paying us not the slightest notice. They were bearing
[422] on their heads large baskets filled with all their earthly posses-
[854] sions---cooking ollas, scraps of cloth, pieces of turtle meat, bone
[231] brads, hair brushes, and odds and ends. They carried, also, an infant or two wrapped in odd bits of rags. Several gaunt dogs followed in their wake.

342 In all, three families came trailing in, removed their household
equipment from their heads and resumed their interrupted and primitive
[592] housekeeping. Each family occupied its apartment in the row of brush shelters, separated from each other only by brush partitions with a total lack of privacy. These shelters, always open to the sea, serve as shade from the fierce rays of the sun, and also as windbreaks, but
[361] are no protection from infrequent rains. They are occupied only for a brief period and then their nomadic tenants move on to fresh *cahuaas*, or sea turtle range.

123 Soon, a third man arrived while we were near the huts, Manuel
[412] Encina. He was a man of sixty-five, gray hair and mustache, seamed features, and not evil looking. He was out of breath. He had gone for water to the same water hole where we had been yesterday, struck our tracks, had left his water cans and hurried back to warn his people. He was greatly relieved to find friends.

Since he had gone for water, inquiry revealed there had been no water in camp for two days, and six adults and one girl of thirteen and six children were thirsty. We gladly gave them one of our five-
[225] gallon cans of water and they were very grateful. They had caught a
[262] sea turtle the day before and gave us some turtle steaks which looked like beef or mutton.

312 As the camp was without water and we were running short, the young
402 man and Encina offered to get some. Each took a *palanca*, or short
123 shoulder pole with knotched ends, fitted empty five-gallon cans in

157 The women are virtuous and faithful and perform all the duties of
152 wife and mother and bear their share of hardships. The hard life,
[145] exposure and struggle for existence soon causes hard features, wrinkles
[165] and ugliness. Many babies die young and the tribe probably numbers
[167] only about two hundred.

The dancing by the driftwood fires continued as we turned in to
123 rest, our eyes constantly drawn to the flame and the glittering eyes in the wild dark faces, while the waves of the sea accompanied the chanting in that mysterious isle of Seriland.

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Seris - off to the fishing grounds - December 1934. Alcatraz Island in distance.

222 In Seriland most of the food comes from the sea. During April and May, at the time of my first visit, a green grass growing on the sea bottom was detached and washed ashore. The women dragged it up on the bank near camp and spread it out to dry. Some of the stalks contained about seven fine green seeds the size of a pin head. When dry, the women threshed them out with sticks on a piece of canvas. These are
[285] cleaned by the deft use of the *batea*, or winnowing basket, of which these people are pastmasters.

252 A pint of these fine seeds were parched in an olla over coals of driftwood and constantly stirred to prevent burning. It was then ground
262 on a flat rock like a *metate*---any flat rock---into a green meal which was very nourishing. This was cooked in an olla with turtle oil, making a porridge like thick green paint. It was then drunk or eaten with the fingers. If there is plenty, two fingers are used; if not, only one finger.

10: Davis E-5 (1922-ca.1939) 1965 NU31 Seri NU31

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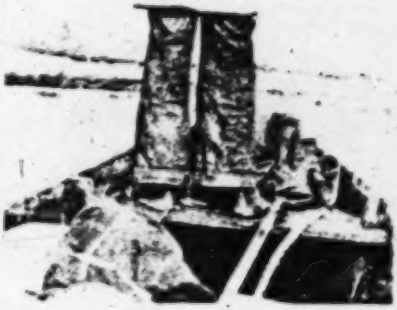
411

Poised for harpooning sea turtles off Tiburon Island - 1936



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The catch

262 The Seris also eat the fruit of the *cholla* cactus, *pitahalla* and *sag-*
222 *uaro*, and probably many other plants in season, but they are wild to get flour. But the principal diet is *cahuama*, or sea turtle.

225 After a day or so with the Seris, their food supply became exhaust-
123 ed and they made arrangements to take our boat (all they had was a
[177] *balsa*) and get a sea turtle. So at four o'clock in the morning, with Roberto and Nene, his brother, and myself, they shoved off for the fishing ground. It took two hours of hard rowing to reach the Sonora
[133] side, as the tide was racing up the *Infernillo*. Most of the waters are shallow, with patches of dark and light sandy bottom, with seaweed or grass. On this green grass the turtle feeds; it is their alfalfa field, and it takes a keen-practised eye to see a turtle at the bottom and harpoon him before he escapes.

225 Once on the Hunting ground, water, one of the Seris stood in the
[411] bow with a harpoon twenty feet long, a detachable barb on the end of it, and a heavy line attached. The Seri in the bow motioned with his hand this way or that, slow or fast, and watched the bottom. At last he plunged his spear and withdrew the pole. The turtle swam awhile
[411] until exhausted, and then he was drawn alongside, his head pounded with an ironwood club, and then he was turned on his back and drawn on board. This called for great skill in balancing the cranky, smooth-bottomed boat to keep it from shipping a wave.

225 When a Seri goes in his native *balsa*, which only holds one man, he
501 straddles the middle part on his knees, resting them on seaweed. The craft is light and is a good sea craft, but it is low in the water and the man is wet all the time. He uses a double-bladed paddle, and his harpoon rests against pegs set in the *carriso*. A rock which serves to quiet the turtle, two pointed stakes and a heavy fish line complete the equipment. He has to paddle across to the other side in that cramped position, say eight or ten miles, very early in the morning, then watch his chance to harpoon. If successful he brings up the turtle, knocks him on the head with the rock, pulls him on the end of the craft by skillful manipulation, cut slots in the front flippers, put stakes through and into the *carriso*, pinning him firmly in place, then paddle back.

225 The wind came up strong when we started to return from our turtle
123 hunt and with wind and tide against us we rowed across the Island. Bob and his brother disembarked and took it afoot for camp, a distance of ten miles, reaching there at two p.m. The Seris made a tump line and towed the boat, one towing and two warping off-shore until we arrived at camp about four p.m.

When the bow was run up on the shore everybody came down, the women and children talking a steady stream in their strange jargon.
123 They soon jerked the heavy turtle out, dragged him up the beach on
262 his back, and began immediately to cut him up. Bob spoke for the breast, which is a white plate on the underside of the turtle with

[text continues on p. 168]

[123] gunwales, and then in trying to balance, she would dip the other way.

As we got to the point, the swells were larger and the danger so imminent we stopped the boat in lee of the point nearest Sonora, and Bob and I landed.

Old Blanco had paddled his *balsa* with some of the freight to the Sonora side. The boat put off again, and rode the sea better and it landed all right on Sonora side. In the meantime, several of the women and children, with their loads, had reached the Seri point ready to be ferried across. The boat returned with two Seris paddling. We loaded a lot of Indian junk, Bob and I and several children, the Chief and a woman. Nine in all. We reached the Sonora side, all right.

By this time breakfast had been cooked and we sat down to drink black coffee and eat rice and onions. The wild-looking Seris sat around us watching each mouthful, hungrily. When we finished we gave them all that was left and they cleaned it up.

[23] As we left the Seri point, and as their masters left, the dogs trotted to the water's edge and howled. Bob said that when all had crossed, the dogs would plunge in and swim across the swift current.
[134] The water was infested with sharks, so it was possible that some of them would not reach shore. At last everybody got across, dogs and all.

[192] The Indians carried their packs; the men with the shoulder sticks and the women balancing their loads with marvelous dexterity on their heads. Two men packed twenty gallons of water in five-gallon cans.

When we had all our things in the boat, Juan Tomas jumped in with his pack. We were well loaded before, but this made us a little too deeply laden. Nevertheless, we pushed off and raised the sail to take advantage of the wind. We sailed parallel to the shore for a few miles until the waves got too overpowering and the boat had a lot of water in her. The mast was unstepped---a very delicate operation---and we made for the shore after shipping some of the waves.

My heart was in my mouth most of the time as each time the boat rolled, one side almost dipped up a wave. It was a matter of personal safety as well as safety of what few things I had already collected. One olla I had bought was smashed. The waves looked like clear green paint.

We finally landed without mishap and pulled the boat up, but it was so rocky we had great difficulty in walking in our bare feet. Our legs and feet were bare when we were in the boat and mine were badly scalded by the sun.

The Seris had made camp one quarter of a mile down the beach from us, and the old Chief shouldered his pack and strode down to them. We were very thankful.

[225] Soon some of the men came back to borrow the boat to hunt for

123 *cahuamas*, or sea turtle. After two or three hours' use of the boat they had harpooned two and brought them to shore. Then the whole bunch 225 went to the shore and dragged them out and began cutting them up as they were all hungry and had had nothing to eat hardly. They gave us one breast, the most delicate part of the turtle. It is tender juicy white meat.

123 We soon had the boat loaded again, paddled to the Indian camp, and took the *carriso* boat in tow. We raised the sail and a good wind sprung up and we made a fast run before the breeze. This also whipped up a nasty sea, and the great green rollers would come and slop against the freeboard to an inch of coming on board. At a critical time our slight tow-line parted and we stood a good chance of being swamped in order to hold the *balsa* until we could bend a heavy fish line with great fishhooks which we jabbed into it.

The boat, all the time, was ripping through the water, the boom was slopping in the waves, and each green roller threatened to come on board. We dared not spit overboard for fear of dipping up a wave. The wind and waves got so nasty we decided to make a landing. To add to our anxiety, the *balsa* had broken loose again, but we held it with our hands despite the waves. We unstepped the mast after dropping the sail, and just in time, as the seas got bigger and the wind stronger. We were so cramped we could not row, so the paddles were used, and eventually we reached a sandy beach, all safe and sound, and pulled the boats up out of the water.

I had sent a note ahead, in English and Spanish, to the car to meet us at a designated place on the coast to the south about fifteen or twenty miles. He had stopped to eat *cahuamas* to give him strength. He was a big raw-boned man, Chico Romero, son of the Chief.

123 On the two points nearest Tiburon and Sonora, the most beautiful 133 rocks had been washed up by the sea, that I ever saw. All colors of the rainbow were represented, but lavender and violet prevailed. The sands were a delicate lavender while the shore at Tinajanita, up the bay, was a deep lavender. Many beautiful shells were left by the tide as well as various colored pumice.

Our present camp was at the foot of the granite hills, and the sand was almost white. It was made much whiter by tiny shell fragments only as large as grains of sand.

600 Ten or twelve years ago Bob's uncle and cousin were captured by the Yaquis. They suffered the most inhuman tortures. The soles of their feet were sliced off and they were made to walk over sharp rocks. Their eyes were gouged out and they were scalped.

Another captive was used like a piece of beef. He was staked out and one Yaqui would ask the other:

"What cut would you like?"

so all the other flies could see and also come to this dead thing.''

A few weeks ago, Antonio Herrera had a very vivid dream. He dreamed that he was hunting in the mountains for deer and came across a cave. (These volcanic mountains are pitted with caves.) He went into the cave and saw all kinds of things dear to the heart of a Seri---plenty of rifles, lots of cartridges, knives, *manta* (unbleached cotton), necklaces, red bandannas, blue overalls, *plata*, or silver, and many other things.

When he awoke he sought his father Manuel Encinas, who is a medicine man and interpreter of dreams, to explain his dream to him. The price demanded by Manuel was six *tiras*---or 30-30 cartridges, a very high price, according to Seri standard. The explanation was this:

It was true that the cave was there and all the things in it just as seen and described by Antonio, but in order to find it he would have to fast nine days and go without water that length of time also, in the heat of summer. Then the way would appear to reach the cave. So far, Antonio has not attempted the fast.

I witnessed the operation of making a certain kind of pitch or tar which the Seris use to make the seams in their canoes or boats tight. The women pound up the dried pulp next to the outside skin of a dead *pitahalla* cactus (organ cactus). This is very dry and brown in color and the pieces are pounded up to a dry powder with a wash or shore rock in a dried deer hide. This is placed in a *batello*, or flat basket, and manipulated so that the coarse pieces come to the top and are scraped off and thrown away. The fine powder is then put in a five gallon can and some porpoise or sea-lion oil or horse oil is poured on it and stirred into a thick gummy mass. When thoroughly mixed it is put over the fire, in an olla, to boil and continually stirred for an hour or two until it is the consistency and has the appearance of coal tar. While being worked it is kept heated and applied to seams inside and outside the boat. It hardens just like tar and answers the same purpose.

Since the corn, which had kept this band of Seris in food, disappeared two days before we came, and they had barely kept going on seeds and a few fish, and they all had decided to leave camp with us in the morning---the women walking and the men and some children in boats---it was necessary to supply them with some food to take them to the hunting grounds of the *cahuama*, or sea turtles, and land them on the Island. The *cahuama* would furnish them meat---their favorite and national food, and the shores would supply them with clams, oysters, crabs and other sea food.

So the whole band was called around our camp and each family was furnished with two cups of corn, two of beans, some green coffee and a cup of cube sugar. For the first time our camp was free of Indians, and we ate and went to bed in peace.

The amenities of civilization were laid aside and forgotten in